## CLAIMS

What is claimed is:

5 1. A method for extracting a set of key-frames from a video, comprising the steps of:

selecting a set of candidate key-frames from among a series of video frames in the video by performing a set of analyses on each video frame, each analysis selected to detect a meaningful content

10 each analysis selected to detect a meaningful content in the video;

arranging the candidate key-frames into a set of clusters;

selecting one of the candidate key-frames from 15 each cluster in response to a relative importance of each candidate key-frame.

- The method of claim 1, wherein the step of selecting a set of candidate key-frames includes the
   step of selecting a set of candidate key-frames in response to a camera motion in the video.
- The method of claim 1, wherein the step of selecting a set of candidate key-frames includes the
   step of selecting a set of candidate key-frames in response to an object motion in the video.
  - 4. The method of claim 1, wherein the step of selecting a set of candidate key-frames includes the step of selecting a set of candidate key-frames in response to a fast camera movement in the video.
  - 5. The method of claim 1, wherein the step of

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selecting a set of candidate key-frames includes the step of selecting a set of candidate key-frames in response to a human face content in the video.

- 5 6. The method of claim 1, further comprising the step of selecting a set of candidate key-frames in response to an audio event in the video.
- The method of claim 1, wherein the step of
   selecting one of the key-frames from each cluster includes the step of determining an importance score for each candidate key-frame.
- 8. The method of claim 7, wherein the step of
  determining an importance score for each candidate
  key-frame includes the step of determining an
  importance score in response to the meaningful
  content in each candidate key-frame.
- 9. The method of claim 1, wherein the step of selecting one of the key-frames from each cluster includes the step of selecting one of the key-frames in response to an image quality of each candidate key-frame.

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10. The method of claim 1, further comprising the step of selecting multiple key-frames from each cluster and obtaining a user selection for the multiple key-frames.

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11. The method of claim 1, wherein the analyses include an accumulative color histogram difference comparison of the video frames.

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12. The method of claim 1, wherein the analyses include an accumulative color layout difference comparison of the video frames.

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- 13. The method of claim 1, further comprising the step of obtaining a user selection from among a set of video frames in the video previous to each keyframe and a set of video frames in the video subsequent to each key-frame.
- 14. A key-frame extraction system, comprising: a set of frame analyzers that each select a set of candidate key-frames from among a series of video frames in a video, each frame analyzers for detecting a meaningful content in the video;

key-frame selector that arranges the candidate key-frames into a set of clusters and that selects one of the candidate key-frames from each cluster as a key-frame for the video in response to a relative importance of each candidate key-frame.

- 15. The key-frame extraction system of claim 14, further comprising an audio event detector that selects a set of candidate key-frames by detecting a set of audio events in the video.
- 16. The key-frame extraction system of claim 14, wherein the frame analyzers include a color histogram analyzer.
  - 17. The key-frame extraction system of claim 14, wherein the frame analyzers include a color layout

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analyzer.

- 18. The key-frame extraction system of claim 14, wherein the frame analyzers include a fast camera motion detector.
- 19. The key-frame extraction system of claim 14, wherein the frame analyzers include a camera motion tracker.

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- 20. The key-frame extraction system of claim 14, wherein the frame analyzers include an object motion analyzer.
- 15 21. The key-frame extraction system of claim 14, wherein the frame analyzers include a human face detector.
- 22. The key-frame extraction system of claim 14,
  20 further comprising a user interface for displaying a set of video frames in the video previous to each key-frame and a set of video frames in the video subsequent to each key-frame and for obtaining a user selection of one or more of the video frames.

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